



New England BioLabs  
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Ipswich, MA 01938

## MATERIAL SAFETY DATA SHEET

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Msds Revision Date: 3/09

**Buffer**  
**#B0761**

### SECTION 1 - PRODUCT

**Product Name:** Protein MetalloPhosphatases (PMP) Reaction Buffer Pack

### SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENT

1. HEPES	< 1%	Cas.	#7365-4509
2. Sodium Chloride	< 1%	Cas.	#7647-14-5
3. Dithiothreitol	< 1%	Cas.	#3483-12-3
4. Brij 35	< 1%	Cas	#0992-92-0

### SECTION 3 - HAZARDOUS IDENTIFICATION

Many NEB products are classified as mixtures which contain hazardous ingredients in concentrations (less than 1%). The quantity of hazardous chemical components does not exceed the permissible exposure limit or "Threshold Limit Value".

MSDS' are offered by NEB since The Hazards Communication Standard set by OSHA does not exempt these mixtures from disclosure.

### SECTION 4 - OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide.

New England Biolabs shall not be held liable for any damage resulting from handling or from contact with the above product.

### SECTION 14 - TRANSPORT INFORMATION

#### DOT

Proper Shipping Name: None

#### Non-hazardous for transport

This substance is considered to be non-hazardous for transport

#### IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

### SECTION 15 - REGULATORY INFORMATION

#### EU Additional Classification

S: 23 24/25

Safety Statements: Do not breathe vapor.  
Avoid contact with skin and eyes.:

#### Canada Regulatory Information

WHMIS Classification: This product has been classification in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR

DSL: Yes

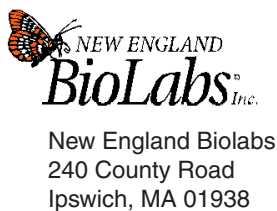
NDSL: No

#### US Classification and Label Text:

US Statements: **Caution:** Avoid contact and inhalation.  
Target Organ(s): Kidneys

#### United States Regulatory Information:

Sara Listed: No  
TSCA Inventory Item: Yes Yes



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**Chemical  
#B1761**

Revision Date: 3/09

### SECTION 1—CHEMICAL INFORMATION

**Product Name:** NEBuffer Pack for Protein MetalloPhosphatases (PMP)

### SECTION 2—COMPOSITION/INFORMATION ON INGREDIENT

**NAME OF CHEMICAL:** Manganese Chloride

Formula:  $Cl_2 Mn$  Molecular Weight: 125.84 g/mol

The hazards identified with this product are those associated with the following component:

1. Manganese chloride	< 1%	Cas. #231-869-6	SARA 313: Yes
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### SECTION 3—HAZARDOUS IDENTIFICATION

**Emergency Overview:**

**OSHA Hazards**

Target Organ Effect, Toxic by ingestion, Reproductive hazard, Mutagen

**Target organs**

Nerves, Lungs, Testes, Male reproductive system.

**HMIS Rating**

Health: 2  
Flammability: 0  
Reactivity: 0

**NFPA Rating**

Health: 2  
Flammability: 0  
Reactivity: 0

**Potential Health Effects**

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.  
Skin: May be harmful if absorbed through skin. May cause skin irritation.  
Eyes: May cause eye irritation. Ingestion: Toxic if swallowed.

### SECTION 4—FIRST AID MEASURES

**Oral Exposure:** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**Inhalation Exposure:** If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**Dermal Exposure:** In case of contact, immediately wash skin with soap and copious amounts of water.

**Eye Exposure:** In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

### SECTION 5—FIRE FIGHTING MEASURES

**Extinguishing Media:** Suitable: Water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special Firefighting Procedures:** Wear self contained breathing apparatus for firefighting if necessary.

**Flash point:** Not applicable

**Ignition temperature:** N/A

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## SECTION 6—ACCIDENTAL RELEASE MEASURES

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**Procedure(s) Of Personal Precaution(s):** Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

**Methods For Cleaning Up:** Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

**Environmental Precaution(s):** Do not let product enter drains. Discharge into the environment must be avoided..

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## SECTION 7—HANDLING AND STORAGE

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**Handling:** Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

**Storage:** Keep container tightly closed in a dry and well-ventilated place.  
Store under inert gas. Moisture sensitive.

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## SECTION 8—EXPOSURE CONTROLS/PPE

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**Engineering Controls:** Safety shower and eye bath. Mechanical exhaust required.

**Personal Protective Equipment:** Government approved respirator.

**Hand:** Compatible chemical-resistant gloves.

**Eye:** Chemical safety goggles.

**Skin Specific:** Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**General Hygiene Measures:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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## SECTION 9—PHYSICAL AND CHEMICAL PROPERTIES

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**Appearance:**                      **Physical State: Powder with lumps**                      **Color: Pink**

### Safety data

pH	5.5 at 25 g/l at 20 °C (68 °F)
Melting point	652 °C (1,206 °F)
Boiling point	1,190 °C (2,174 °F) at 1,013 hPa (760 mmHg)
Flash point	not applicable
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Density	2.98 g/mL at 25 °C (77 °F)
Water	solubility soluble

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## SECTION 10–STABILITY AND REACTIVITY

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**Stability:** Stable under recommended storage conditions.

**Conditions to Avoid:** Moisture.

**Materials to Avoid:** Zinc, Sodium/sodium oxides, Potassium, Strong acids, Hydrogen peroxide.

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas, Manganese/manganeseoxides.

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## SECTION 11- TOXICOLOGICAL INFORMATION

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### Acute toxicity

LD50 Oral - rat - 250 mg/kg

### Irritation and corrosion

no data available

### Sensitisation

no data available

### Chronic exposure

**IARC:** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**OSHA:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Laboratory experiments have shown mutagenic effects.

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

### Signs and Symptoms of Exposure

Men exposed to manganese dusts showed a decrease in fertility. Chronic manganese poisoning primarily involves the central nervous system. Early symptoms include languor, sleepiness and weakness in the legs. A stolid mask-like appearance of the face, emotional disturbances such as uncontrollable laughter and a spastic gait with tendency to fall in walking are findings in more advanced cases. High incidence of pneumonia has been found in workers exposed to the dust or fume of some manganese compounds., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

### Potential Health Effects

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.
<b>Ingestion</b>	Toxic if swallowed.
<b>Target Organs</b>	Nerves., Lungs, Testes., Male reproductive system.,

### Additional Information

RTECS: OO9625000

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## SECTION 12—ECOLOGICAL INFORMATION

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### Elimination information (persistence and degradability)

Bioaccumulation Pimephales promelas (fathead minnow) - 5.3 d

Bioconcentration factor (BCF): 22.6

### Ecotoxicity effects

Toxicity to fish LC50 - Orconectes limosus - 51 mg/l - 96 h

Toxicity to daphnia EC50 - Daphnia magna (Water flea) - > 11 mg/l - 48 h

and other aquatic  
invertebrates.

### Further information on ecology

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic organisms.

Avoid release to the environment.

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## SECTION 13—DISPOSAL CONSIDERATIONS

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### Appropriate Method of Disposal of Substance or Preparation

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

### Contaminated packaging

Dispose of as unused product.

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## SECTION 14—TRANSPORT INFORMATION

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### DOT

DOT (US)

UN-Number: 3288 Class: 6.1 Packing group: III

Proper shipping name: Toxic solid, inorganic, n.o.s.  
(Manganese dichloride)

Marine pollutant: No

Poison Inhalation Hazard: No

### IATA

UN-Number: 3288 Class: 6.1 Packing group: III

Proper shipping name: Toxic solid, inorganic n.o.s. (Manganese dichloride)

### IMDG

UN-Number: 3288 Class: 6.1 Packing group: III EMS-No: F-A,  
S-A

Proper shipping name: TOXIC SOLID, INORGANIC, N.O.S.  
(Manganese dichloride)

Marine pollutant: No

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## SECTION 15—REGULATORY INFORMATION

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### OSHA Hazards

Target Organ Effect, Toxic by ingestion, Reproductive hazard, Mutagen

### DSL Status

All components of this product are on the Canadian DSL list.

### SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

Manganese dichloride CAS-No. 7773-01-5 Revision Date 1987-01-01

### SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

### Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

### Pennsylvania Right To Know Components

Manganese dichloride CAS-No. 7773-01-5 Revision Date 1987-01-01

### New Jersey Right To Know Components

Manganese dichloride CAS-No. 7773-01-5 Revision Date 1987-01-01

### California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

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## **SECTION 16–OTHER INFORMATION**

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### **DISCLAIMER**

For R&D use only. Not for drug, household or other uses.

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